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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/658,731	09/11/2000	Petri Jolma	4925-57	4528

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EXAMINER	
RAMPURIA, SHARAD K	

ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 08/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/658,731	JOLMA ET AL.	
	Examiner	Art Unit	
	Sharad Rampuria	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

I. The Art Unit location of this application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

II. The current office-action is in response to the amendments/remarks filed on 05/18/2006. Accordingly, Claims 1-15 are pending for further examination as follows:

Claim Rejections - 35 USC § 103

III. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

IV. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al. (US 5831976) in view of Elliott et al. (US 6438376) and further in view of Jensen et al. (US 6405043)

Regarding claim 1, Lin disclosed A method of allocating communication channels in a communication system comprising a plurality of base stations (116; Fig.1, abstract) each for communicating with at least one mobile station (111; Fig.1), the base stations capable of communicating via any of a predetermined group of channels, and some of the base stations being susceptible of being interfered with by other of the base stations in some of the channels of said group of channels (Col.5; 14-58), the method comprising the steps of:

Lin fails to disclose allocating on request a channel according to the predetermined classification and a desired quality class of transmission. However, Elliott teaches in an analogous art, that allocating on request a channel according to the predetermined classification and a desired quality class of transmission. (Predetermined...limit, Col.12; 55-Col.13; 19) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lin including allocating on request a channel according to said predetermination and a desired quality class of transmission in order to enhance the wireless system management of channel assignment in a wireless communication system.

The above combinations fails to disclose predetermining, for each base station, a classification for each channel according to the probability of interference at the channel with other base stations of the plurality of base stations. However, Jensen teaches in an analogous art, that predetermining, for each base station, a classification for each channel according to the probability of interference at the channel with other base stations of the plurality of base stations. (i.e. probability ... interference; Col.11; 20-42 and Col.12; 7-43) at the channel with other base stations of the plurality of bases stations; (i.e. choose the best channel; Col.13; 4-19) upon a request of at least one mobile station to initiate communication via a base station. (i.e.

signal received from mobile station; Col.9; 15-50) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lin and Elliott including predetermining, for each base station, a classification for each channel according to the probability of interference at the channel with other base stations of the plurality of base stations in order to improve the performance of cellular telephone systems, in determines a value indicating a probability of interference with a signal on a channel expected to serve the known position.

Regarding claim 2, Lin disclosed The method of claim 1, wherein each said channel is a time slot. (Col.6; 26-37)

Regarding claim 3, Lin disclosed all the particulars of the claim except, avoided by said each base station remaining channels in which said other base stations interfere with said each base station. However, Elliott teaches in an analogous art, that The method of claim 1, wherein said predetermination comprises:

assigning as owned by said each base station and as avoided by said other base stations a channel in which said other base stations interfere with said each base station; (Predetermined...limit, Col.12; 55-Col.13; 44)

assigning as owned by said other base stations and as avoided by said each base station remaining channels in which said other base stations interfere with said each base station; (Predetermined...limit, Col.12; 55-Col.13; 44) and

assigning as shared by said each base station and said other base station channels in which said other base stations interfere with said each base station if used simultaneously with said each base station and which are not assigned as owned by either. (Predetermined...limit, Col.12; 55-Col.13; 44) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to include allocating on request a channel according to said predetermination and a desired quality class of transmission in order to enhance the wireless system management of channel assignment in a wireless communication system.

Regarding claim 4, Lin disclosed The method of claim 1, wherein:

the communication system further includes a controller (112; Fig.2) connected to each base station;

said predetermination for each base station is reported to the controller; and

said allocating is performed in the controller. (Col.5; 14-25)

Regarding claim 5, Lin disclosed The method of claim 3, wherein:

the communication system further includes a controller (112; Fig.2) connected to each base station;

said predetermination for each base station is reported to the controller;

said allocating is performed in the controller; and

the controller maintains an indication of which channels are currently allocated for each base station. (Col.5; 14-25).

Regarding claim 6, Lin disclosed The method of claim 5, wherein:

if neither an owned channel nor a shared channel of a first base station is available for a requested communication, the controller determines whether any avoided channel of the first base station is not in use by a second base station owning that channel, and if so, that channel is allocated for the requested communication. (Col.7; 7-24)

Regarding claim 7, Lin disclosed The method of claim 2 wherein the step of allocating is further according to location of a mobile station to be communicated with. (Col.6; 15-25)

Regarding claims 8, 15, Lin disclosed Apparatus for allocating communication channels in a communication system comprising a plurality of base stations (116; Fig.1) each for communicating with at least one mobile station, (111; Fig.1), the base stations capable of communicating via any of a predetermined group of channels, and some of the base stations being susceptible of being interfered with by other of the base stations in some of the channels of said group of channels (Col.5; 14-58), the apparatus comprising a logic unit configured to:

Lin fails to disclose allocating on request a channel according to the predetermined classification and a desired quality class of transmission. However, Elliott teaches in an analogous art, that allocating on request a channel according to the predetermined classification and a desired quality class of transmission. (Predetermined...limit, Col.12; 55-Col.13; 19) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lin including allocating on request a channel according to said predetermination and a

desired quality class of transmission in order to enhance the wireless system management of channel assignment in a wireless communication system.

The above combinations fails to disclose predetermining, for each base station, a classification for each channel according to the probability of interference at the channel with other base stations of the plurality of base stations. However, Jensen teaches in an analogous art, that predetermining, for each base station, a classification for each channel according to the probability of interference at the channel with other base stations of the plurality of base stations. (i.e. probability ... interference; Col.11; 20-42 and Col.12; 7-43) at the channel with other base stations of the plurality of bases stations; (i.e. choose the best channel; Col.13; 4-19) upon a request of at least one mobile station to initiate communication via a base station. (i.e. signal received from mobile station; Col.9; 15-50)

Regarding claim 9, Lin disclosed The apparatus of claim 8, wherein each said channel is a time slot. (Col.6; 26-37)

Regarding claim 10, Lin disclosed all the particulars of the claim except, avoided by said each base station remaining channels in which said other base stations interfere with said each base station. However, Elliott teaches in an analogous art, that The method of claim 8, wherein said predetermination comprises:

assigning as owned by said each base station and as avoided by said other base stations a channel in which said other base stations interfere with said each base station; (abstract, quality index; Col.12; 55-Col.13; 44)

assigning as owned by said other base stations and as avoided by said each base station remaining channels in which said other base stations interfere with said each base station; (abstract, quality index; Col.12; 55-Col.13; 44) and

assigning as shared by said each base station and said other base station channels in which said other base stations interfere with said each base station if used simultaneously with said each base station and which are not assigned as owned by either. (Predetermined...limit, Col.12; 55-Col.13; 44) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to include allocating on request a channel according to said predetermination and a desired quality class of transmission in order to enhance the wireless system management of channel assignment in a wireless communication system.

Regarding claim 11, Lin disclosed The apparatus of claim 8, further comprising a controller (112; Fig.2) connected to each base station and configured to:

receive said predetermination for each base station is reported to the controller; and

to be a portion of said logic unit for performing said allocating. (Col.5; 14-25).

Regarding claim 12, Lin disclosed The apparatus of claim 11, wherein the controller (112; Fig.2) maintains an indication of which channels are currently allocated for each base station. (Col.5; 14-25).

Regarding claim 13, Lin disclosed The apparatus of claim 12, wherein:

if neither an owned channel nor a shared channel of a first base station is available for a requested communication, the controller is configured to determine whether any avoided channel of the first base station is not in use by a second base station owning that channel, and if so, to allocate that channel for the requested communication. (Col.7; 7-24)

Regarding claim 14, Lin disclosed The apparatus of claim 9, wherein the logic unit is configured to allocate a channel further according to location of a mobile station to be communicated with. (Col.6; 15-25)

Response to Amendments & Arguments

V. ***Applicant's arguments filed on 5/18/2006 have been fully considered but they are not persuasive.***

Concerning Claim 1:

In rejoinder to Applicant's argument that Jensen doesn't teach, "upon a request of at least one mobile station to initiate communication via a base station." it is noted that Jensen supports the assertion as, the signal received from the mobile transmitter to the cell site or a base station can easily interpret the claimed invention. (Please perceive the signal received from mobile station; Col.9; 15-50) Hence, it is believed that ***Jensen still teaches the claimed limitations***.

The above arguments also recites for the claims 8, 15, consequently the response is the same explanation as set forth above with regard to claim 1.

With the intention of that explanation, it is believed and as enlighten above, the refutation are sustained.

Conclusion

VI. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharad Rampuria whose telephone number is (571) 272-7870. The examiner can normally be reached on M-F. (8:30-5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://portal.uspto.gov/external/portal/pair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or *EBC@uspto.gov*.

Sharad Rampuria
Patent Examiner
Art Unit 2617

GEORGE ENG
SUPERVISORY PATENT EXAMINER